

Conservation of the table mountain ghost frog assignment



**ASSIGN
BUSTER**

The class Amphibian is an extremely fascinating and diverse one and has over the centuries astounded and intrigued not only the scientific community but society at large (Attenuator's 2008). Amphibians are exothermic, asexual, and transported (Reproach 1987). Their integral role in the ecosystem and various food webs is most certainly undeniable (Campbell et al 2011). From a taxonomic standpoint, frogs are a varied group of typically short, tailless Amphibians composing the order Anura (Reproach 1987).

More specifically, the species of concern to this particular assignment, the Table Mountain ghost frog, further belongs to the family Hylidae (Caldwell et al 1993). This spectacular yet highly elusive frog species, resemble other Hylidae species in terms of their morphologies, with specific respect to their body shapes, posture, elongated limbs and large, gingly webbed and adhesive fingers and toes (Channing 2001).

In contrast with other species within this family, the Table Mountain ghost frog differs in that it has an enlarged thumb-like inner metacarpal tubercle (Dolman; Truer 1986), Also it does not possess a transverse band through the eye (Caldwell et al 1993). Further, the dorsum is green in color with a dark maroon to purple mottling (De Villagers). Additionally, in terms of identification, the ventral surface possesses a typically a pinkish-white shading, especially on the undersides of the limbs which itself has a particularly granular texture (Channing 2001).

Adults range in approximate size from 50 mm for males to 63 mm for females, given in terms of snout-vent length (Ponton 1960). These morphological characteristics have enabled the Table Mountain ghost frog to

fully exploit its various ecological niches in addition to best surviving and adapting to its conditions and habitat (De Villagers 1997). This species in particular, occupies a highly restricted range With a documented extent of occurrence being recorded at approximately 7-8 km (Passport; Caruthers 1995).

It is endemic to the southern and eastern slopes of Table Mountain which is situated in the Western Cape, South Africa (Changing 2001). The Table Mountain ghost frog is known to inhabit streams and moist, forested gorges (De Villagers 1997). Through careful observation, it has been noted that some non-breeding, adult members of the species occupy caves and have been found in narrow rock crevices (Power; Rose 1929).

Morphological adaptations, as afore mentioned have led to the colonization of such habitats by this species. Their highly webbed toes, With suction-like feet enable it to climb rocky, vertical facing slopes and easily navigate fast flowing streams (Changing 2001). Whilst it's compressed, squat body enables it to hide in small crevices. The species lives in forest and bonbons headlands whilst breeding in gorges, valleys and ravines on Table Mountain (Minter et al 2004).

As the tadpoles of this species require in excess of a year to undergo metamorphosis it has proved imperative that there is perennial water to facilitate this development and general reproductive success (Passport; Caruthers 1995), unfortunately, the Tale Mountain ghost frog's numbers are in a state of perpetual declining (De Villagers 1997), this is due to a number

of various factors which shall be discussed further within the contents of this assignment.

Due to its general rarity and further elusive behavior, in addition to the fact that this species is far from highly distributed, the accurate studying of population numbers and trends has proved difficult for herpetologists (Cambridge 1994), Gravid females have been noted during the period of October through December whilst advertisement calls have been heard during the month of December which coincides with the lower level and slower tides experienced during this period (De Villagers 1997).

The close observations of not only the Table Mountain ghost frog, but also weather and hydrological notations have enabled populations to be better studied. Despite being situated in a protected natural environment, the Table Mountain ghost frog still faces numerous threats to its already diminishing populations (Changing 2001). Due to the nature of the location of the area its endemic to, human disturbance is a key threat. Table Mountain is situated within the bustling epicenter of the metropolitan city of Cape Town, in addition to which it is a major eco-tourism location (Pontoon 1960). Human disturbance is thus almost inevitable and so too is the subsequent introduction of disease (De Villagers 1997). Erosion is another substantial threat the species faces. Erosion would be most likely as a result of alien vegetation, the high levels of pedestrian foot traffic the area experiences as a result of being such a tourist hot spot as well as over grazing (Minter et al 2004).

This all reduces run-off and stream flow which pose dire consequences for the species and their water dependent reproduction habits and tadpoles (Changing 2001). A further threat faced is the occurrence of frequent fires and poor forestry practices, which leads to streams becoming blocked with sediment (Minter et al 2004). Water flow is further restricted with the construction of dams and reservoirs for human use (Morris; Camino 2010).

In fairly recent times, global warming has become yet another monumental threat to the Table Mountain ghost frogs numbers as reduced rainfall as a result may lead to a further loss of perennial streams, once more posing severe threats to the population numbers (Minter et al 2004). Also in recent years, a serious fungal disease strain, known as, chytridiomycosis has been found in some species of this already critically endangered species (Hyatt et al 2007).

This particular fungal infection, which attacks the sensitive skin of the species which is essential to their respiration and thus survival, has been known to lead to dramatic declines in amphibian numbers in very short periods of time (Hyatt et al 2007). In terms of conservation, several measures have been established to best ensure population numbers may be kept as stable as possible, as is very evident complete extinction of this marvelous species is indeed a reality (De Villagers 1997).

Especially since local extinction has occurred in some parts of Table Mountain (Changing 2001). It has been estimated that the number of tadpoles in Skeleton gorge (an area the species has long been associated with) has decreased by 50 % since 1980 (Hyatt et al 2007).

The range of the Table Mountain ghost frog is included within the Table Mountain National Park and Cornerstones National Botanical Garden, which in itself is incorporated into the Cape Aorist World Heritage Site (Minter et al 2004), The species is monitored by the Western Cape Nature Conservation Board as part of the threatened species program (Lips 1998). In addition Cape Nature carefully monitors the species, with particular attention being afforded to erosion and alien vegetation control and the regulation and maintenance of perennial stream flow (Season et al 2007).

It is hoped the rigid implementation of these measures may assist in regulating the rapidly diminishing populations of the Table Mountain ghost frog (Minter et al 2004), As always, increasing knowledge of the status of the Table Mountain ghost frog and the various conservation efforts in place, amongst the general public is a most imperative step in protecting its populations and generating awareness of plight (De Villagers 1997) The loss of this species would not only be detrimental in terms of diversity but the ramifications of such would be far reaching in terms of effect on food webs in the area (Season et al 2007).

In conclusion, after a detailed exploration into the habitat, ecology, population and even morphology of the elusive Table Mountain ghost frog a true appreciation for this elusive species may be attained. Such interest in this species is vital considering its current Status being at the critically endangered level. After an analysis of the threats this species face. Which was discussed through the contents of this assignment, the severity of the reality the table Mountain Ghost frog are confronted with is indeed daunting.